

60 V/100 V photorelays with industry-smallest mounting area S-VSON4 package

TLP3407S, TLP3409S

60 V/100 V products have been available in the lineup of S-VSON4 package products with the industry-smallest mounting area

Toshiba has launched two photorelays products “TLP3407S” and “TLP3409S” with industry-smallest mounting area^{*1}, S-VSON4, as our lineup.

TLP3407S with 60 V and TLP3409S with 100 V photorelays are newly available in addition to existing TLP3406S with 30 V. They are small package and have large current rating, that are suitable for DPS^{*2} application of semiconductor testers.

The S-VSON4 package of new products can reduce mounting area by 22.5 % compared with an existing VSON4 package^{*3}. That contributes improvement of integration density of tester boards.

Furthermore, higher operation temperature rating from 85°C to 110°C secures designing margin and provides ease of use.

Applications

- Semiconductor testers (memory, SoC and LSI)
- Probe cards
- Medical equipment
- Replacement of mechanical relays



Semiconductor testers

Features

- Industry-smallest mounting area^{*1} S-VSON4 package: 2.00 mm×1.45 mm (typ.)
- Voltage and current ratings:
 OFF-state output terminal voltage 60 V, ON-state current 1.0 A,
 ON-state current (pulsed) 3.0 A (TLP3407S)
 OFF-state output terminal voltage 100 V, ON-state current 0.65 A,
 ON-state current (pulsed) 2.0 A (TLP3409S)
- High operating temperature rating: T_{opr} (max)=110°C

*1: As of February 2017, from a survey by Toshiba.

*2: Device Power Supply (DPS)

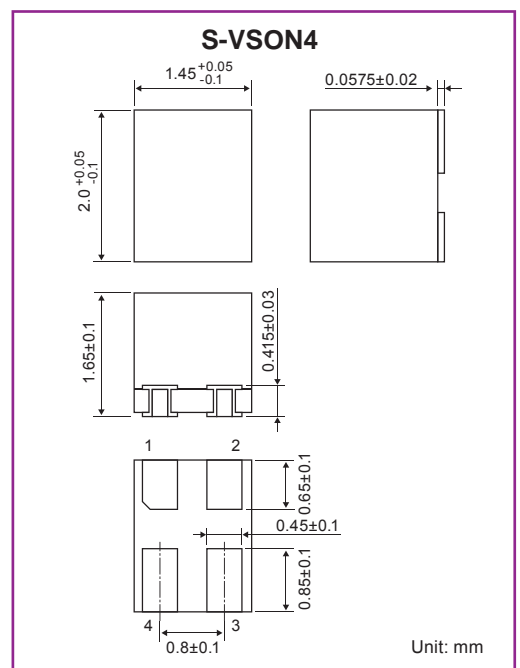
*3: VSON4: 2.45 mm × 1.45 mm (typ.)

External View



S-VSON4

Outline Drawing



Main Specifications

(@T_a=25°C)

Part Number	Absolute maximum ratings			ON-state resistance		Output capacitance C _{OFF} typ. (pF)	OFF-state Current I _{OFF} max		Turn-on time t _{ON} max (ms)	Turn-off time t _{OFF} max (ms)	Package
	OFF-state output terminal voltage V _{OFF} (V)	ON-state current I _{ON} (A)	Operating temperature T _{opr} (°C)	R _{ON} typ. (Ω)	R _{ON} max (Ω)		(nA)	@V _{OFF}			
								(V)			
TLP3406S	30	1.5	-40 to 110	0.1	0.2	120	1	20	2.0	1.0	S-VSON4
TLP3407S ^{*4}	60	1.0		0.2	0.3	80	1	50	2.0	0.3	
TLP3409S ^{*4}	100	0.65		0.4	0.6	50	1	80	2.0	0.3	

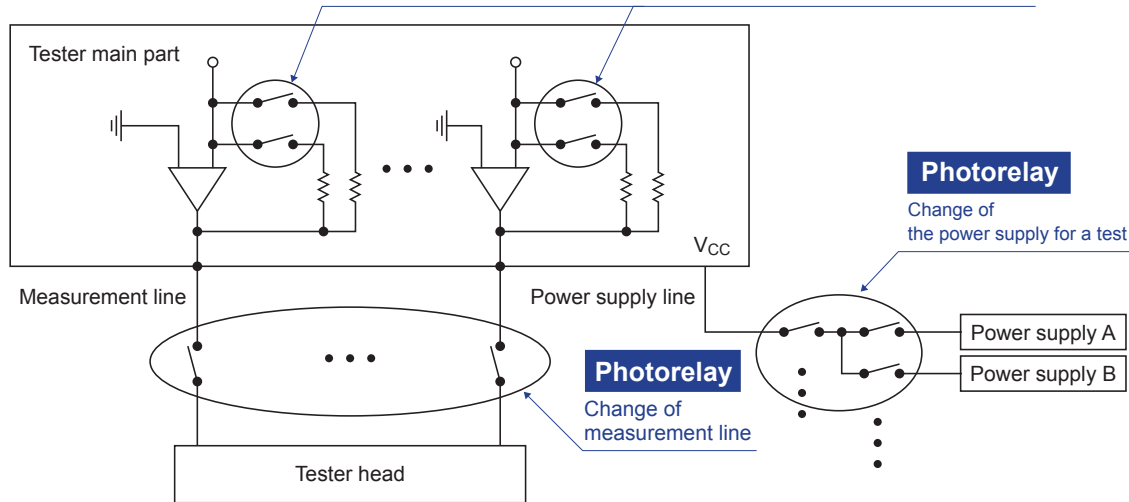
*4: New product

Circuit Example

■ Semiconductor testers

Photorelay

Change of feedback resistance



Photorelay

Change of the power supply for a test

Photorelay

Change of measurement line

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